

## AMENDMENTS TO THE CLAIMS

**Claims 1 to 11** (previously cancelled)

**Claim 12** (currently amended)

A method for conditioning a polymeric proton fuel cell exchange membrane for operation at temperatures above 100°C, the method comprising the steps of:

- a: heating ~~the a polymeric proton fuel cell exchange membrane~~ (membrane) to an elevated temperature above its transition temperature;
- b: selecting a desired percentage of conversion of the heated membrane polymer from an initial amorphous state to a crystalline state;
- c: holding said membrane at the elevated temperature for a predetermined interval, wherein the predetermined interval has been selected to permit the desired percentage conversion of amorphous to crystalline state; and
- d: returning the membrane to ambient temperature.

**Claim 13** (previously added)

The method of claim 12 wherein the said operating temperature is below the glass transition temperature of said membrane.

**Claim 14** (previously cancelled)

**Claim 15** (previously added)

*can distinguish fr. prior art by  
degree of sulfonation  
ref (19 % molar) (col. 12,  
last p.)*

The method of claim 12 wherein the operating temperature of said membrane is at least about 130°C.

**Claim 16** (previously amended)

The method of claim 12 wherein the percentage conversion of crystalline state is determined using X—ray spectroscopy.

**Claim 17** (previously cancelled)

**Claim 18** (previously added)

The method of claim 12 wherein the polymer comprises a hydrocarbon bearing fluorine and sulfate group.

**Claim 19** (previously added)

The method of claim 12 wherein the polymer comprises a perfluorocarbosulfonic acid polymer.

**Claim 20** (previously added)

A membrane for a fuel cell that is capable of operating in the range of 100° to about 160°C wherein the membrane is prepared by the method of claim 12.

**Claim 21** (previously added)

A membrane for a fuel cell that is capable of operating in the presence of 1% carbon monoxide, wherein the membrane is prepared by the method of claim 12 and is operated at a temperature above 100°C.

**Claim 22** (previously added)

The membrane of claim 20 wherein the operating temperature is above 130°C.

**Claim 23** (previously added)

The membrane of claim 20 wherein the operating temperature is less than the glass transition temperature of the polymer.

**Claim 24** (previously cancelled)

**Claim 25** (currently amended)

A method of operating a polymer electrolyte membrane fuel cell at elevated temperatures equipped with a membrane conditioned by claim 12 comprising supplying an oxygen containing gas at the cathode and supplying at the anode a fuel selected from the group consisting of hydrogen, reformat, methanol and ethanol.

**Claim 26** (previously added)

The method of claim 25 wherein the fuel contains carbon monoxide and the operating temperature is at least 100°C.